

## **SOUTH CAROLINA RABBIT HUNTER SURVEY 2019-2020**

The Small Game Project, South Carolina Department of Natural Resources (SCDNR), implemented the South Carolina Rabbit Hunter Survey in the 1991-92 season. The survey was designed to provide reliable, quantitative information about rabbit numbers and rabbit hunter success across the state.

This report presents information from the latest survey and compares data collected for the past 10 years. Information is used to identify trends in rabbit populations and rabbit hunting activities in South Carolina.

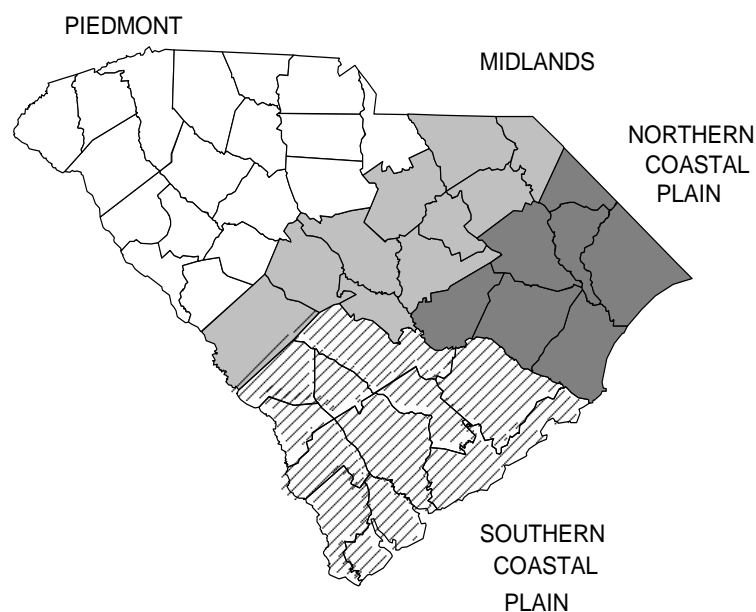
### **METHODS**

Individuals contacted for this rabbit hunter survey included respondents to last year's survey and persons who called, emailed, or wrote requesting a survey form this past year. Potential survey cooperators are also solicited through public presentations and the SCDNR website. In addition, hunters were provided the opportunity to sign-up to participate on-line and given the option of downloading a hunt report form or reporting their hunts directly using their computer or mobile device. Hunters interested in participating in this annual event can sign up at [www.dnr.sc.gov/surveys/smallgame](http://www.dnr.sc.gov/surveys/smallgame).

Hunters participating via postal service were provided with data sheets, instructions, and self-addressed stamped envelopes prior to the start of the 2019-20 rabbit hunting season. All cooperators were asked to keep accurate records of their hunting activities and to provide the following information about each individual hunt: name, date and county of hunt, number of hunters, number of hours hunted, number of rabbits jumped, number of rabbits harvested, and quail coveys and woodcock flushed. Additional information requested includes the number and species of rabbits bagged during the season along with comments on dog performance and season quality. Information on food habits, diseases and general comments was also requested.

At the end of the hunting season, a reminder was sent or emailed to each individual asking that the survey form be returned or on-line submissions be finalized. A period of 60 days was allowed for hunters to respond at which time data were analyzed by county, geographic region and statewide.

South Carolina is divided into four broad geographic regions (Fig. 1) based on habitat. The "Piedmont" encompasses about 1/3 of the state and includes the mountain and foothills area. The "Midlands" extends on a broad northeast/southwest axis across the upper coastal plain of the state. The "Pee Dee" region is located on the northern lower coastal plain and the "Lowcountry" is situated in the southern lower coastal plain.



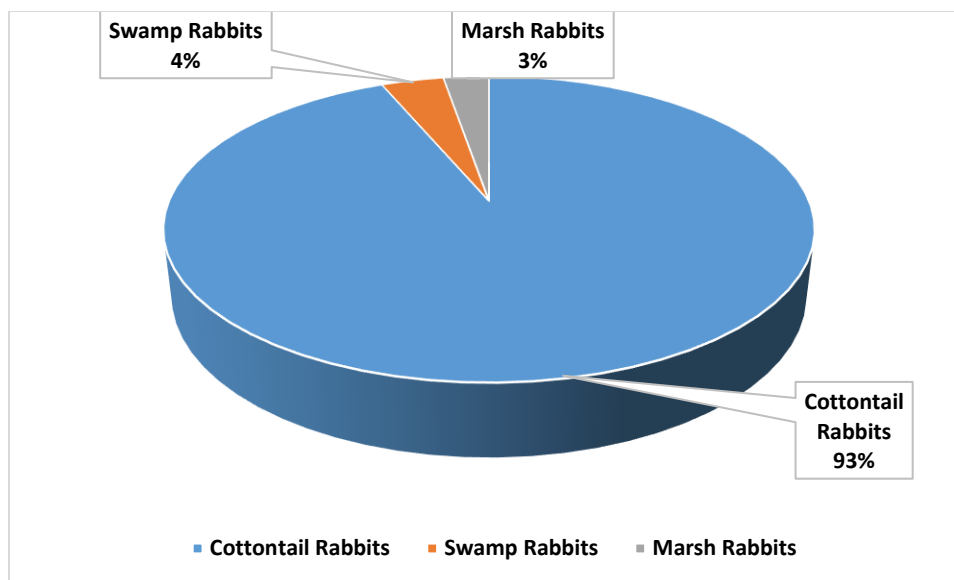
**Figure 1. Physiographic regions of South Carolina, South Carolina Rabbit Hunter Survey.**

## **Results and Discussion**

### **Statewide**

A total of 7 individuals responded to the survey. Survey cooperators recorded 99 hunts and logged 439.5 hours in the field. Hunting parties averaged 3.84 hunters per trip and the average hunt length was 4.44 hours. Based on this information, survey cooperators and their companions expended a minimum of 17.05 man-hours/hunt (1688 total man-hours) in pursuit of rabbits during the 2019-20 season.

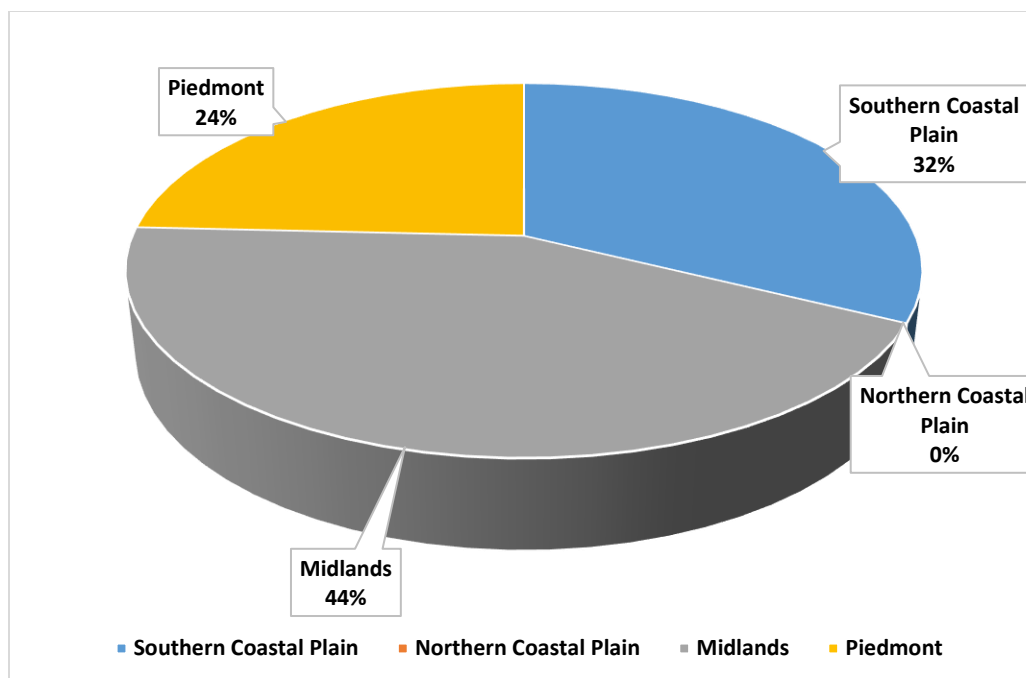
Hunting parties jumped an average of 1.30 rabbits per hour and harvested 1.14 rabbits per hour. Based on our survey, 68% of rabbits jumped were harvested. Cottontails (*Sylvilagus floridanus*) were the predominant species reported harvested followed by swamp rabbits (*S. aquaticus*) and marsh rabbits (*S. palustris*) (Fig. 2).



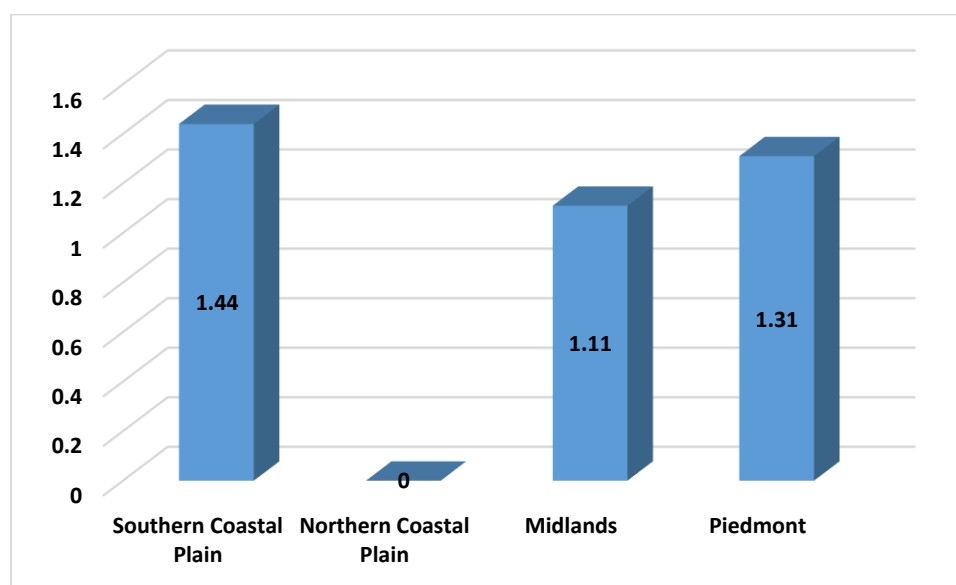
**Figure 2. Reported species composition of rabbits harvested by cooperators, South Carolina Rabbit Hunter Survey, 2019-20.**

Historically, swamp rabbits have been documented only in the Savannah River drainage of Oconee, Pickens, and Anderson Counties (Webster et. al. 1985, Platt and Bunch 2000). It is likely that some marsh rabbits are mistakenly identified as swamp rabbits. Cooperators are provided with a fact sheet describing how to distinguish the three species of rabbits. In addition, SCDNR is conducting research to definitively map the distribution of the three species in the state. Any hunters interested in assisting are encouraged to contact the small game program at 803-734-4568 or [smallm@dnr.sc.gov](mailto:smallm@dnr.sc.gov).

The number of hunts reported were highest for the Midlands followed by the Southern Coastal Plain (Fig. 3). The highest average rabbit-jumping rate per hour was recorded for the Southern Coastal Plains hunts (1.44), followed closely by the Piedmont (1.31) (Fig. 4).



**Figure 3. Percentage of rabbit hunts by region, South Carolina Rabbit Hunter Survey, 2019-20.**



**Figure 4. Average number of rabbits jumped per hour by region, South Carolina Rabbit Hunter Survey, 2019-20.**

## County Results

Survey cooperators reported rabbit hunting activity from 11 of the 46 counties in South Carolina during the 2019-20 season. For counties reporting at least 5 hunts, Hampton County led the state in hunter effort (hours hunted) with hunters logging 163 hours in the field during 30 hunts. Following Hampton in hunter effort were Lee (87 hours, 29 hunts), Sumter (55 hours, 13 hunts), Union (46.5 hours, 9 hunts), and Edgefield (34 hours, 7 hunts) Counties.

Rabbits jumped per hour for the leading counties (5 hunt minimum) were: Lee (1.74), Hampton (1.43), Edgefield (1.41), Union (1.05) and Sumter (0.00). Jumping rates may have variables affecting them such as shooting (or not shooting) on the initial jump, cover thickness delaying a killing shot during the chase, and letting the dogs run for exercise or training. However, jumping rates do give an index to the relative abundance of rabbits in a given area.

## Comparison to 2019-20 Survey

Number of hunts (99) recorded by all hunting parties increased from 38 with a corresponding increase in total hours afield from 132.2 to 439.5 hours. Average hunt length increased from 3.48 to 4.44 hours. The minimum number of man-hours expended by rabbit hunters and their companions increased from 670.5 to 1,687. Also, the number of rabbits jumped per hour decreased from 1.60 in 2018-19 to 1.30 in 2019-20. Rabbits harvested per hour also decreased from 1.17 to 0.88.

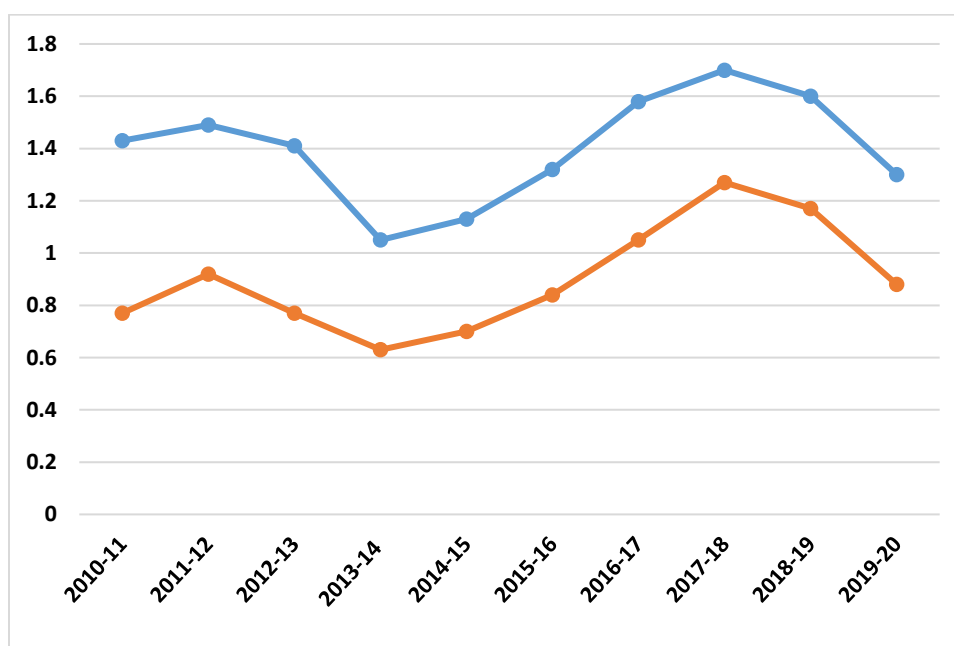
Table 1 summarizes the data collected for the past 10 years of the survey and Figure 5 shows the trend in rabbits jumped and harvested per hour. The number of rabbits jumped per hour fluctuates annually but has remained relatively stable over the past 10 years. Due to the relatively small sample sizes of cooperators and hunts, factors other than rabbit abundance can contribute significantly to changes in the rabbits jumped per hour index.

The number of counties reporting rabbit hunting activity increased from 8 in 2018-19 to 11 for this past season. In 2019-20 Hampton, Lee, and Sumter counties were first, second and third, respectively, in hunter effort (hours hunted), followed by Union and Edgefield Counties. In 2019-20, rabbits jumped per hour (minimum of 10 hunts), were highest in Lee and Hampton Counties.

Statewide, quail flushes increased from 0.01 coveys per hour to 0.06 coveys per hour while the number of coveys flushed increased from 8 in 2018-19 to 26 in 2019-20. Woodcock flushed per hour increased from 0.01 in 2018-19 to 0.05 in 2019-20. Total woodcock flushed increased from 5 to 30 from 2018-19 to 2019-20. This was the 24th year data was collected on number of woodcocks flushed.

**Table 1. Statewide results, South Carolina Rabbit Hunter Survey, 2011-2020.**

<b>Year of Survey</b>	<b>Rabbits Jumped per Hour</b>	<b>Rabbits Harvested per Hour</b>	<b>Quail Coveys Flushed per Hour</b>
2010-11	1.43	0.77	0.03
2011-12	1.49	0.92	0.04
2012-13	1.41	0.77	0.02
2013-14	1.05	0.63	0.02
2014-15	1.13	0.70	0.03
2015-16	1.32	0.84	0.04
2016-17	1.58	1.05	0.03
2017-18	1.70	1.27	0.06
2018-19	1.60	1.17	0.01
2019-20	1.30	0.88	0.06

**Figure 5. Rabbits jumped per hour (dotted line) and rabbits harvested per hour (dashed line), South Carolina Rabbit Hunter Survey, 2010-2019.**

### Cooperator Comments

Three hunters provided a rating for the 2019-20 rabbit-hunting season. Of these, 1 reported their dog performance as good and 2 reported the performance as fair.

Cooperators reported lack of quality rabbit habitat on public lands. In addition, wet weather appeared to be causing some concern among cooperators.

When used as an index of abundance, the rabbit jumping rate for the 2019-20 rabbit season would indicate a slight decrease in population from the previous year. However, numerous factors, including weather and dog performance, also have substantial impacts on rabbit jump rate. As in all wildlife species, rabbit populations are directly linked to the quantity and quality of available habitat, as well as other intrinsic factors such as weather and hunting pressure.

## Summary

The 2019-20 Rabbit Hunter Survey marked the 29th year of building a database on rabbit populations and rabbit hunter success in South Carolina. Plans are to continue this survey during the 2020-2021 season. Additional efforts will be made to increase cooperator response as well as reporting accuracy. We will continue to refine our on-line reporting system to make participation as convenient as possible for our hunters.

If you are aware of someone who hunts rabbits but does not participate in this survey, please encourage them to do so. Potential cooperators should contact the SCDNR Small Game Project at 803-734-4568 or [smallm@dnr.sc.gov](mailto:smallm@dnr.sc.gov).

**A reminder for next year: Data cannot be entered without hunter name and address or if all hunts are submitted as one entry.**

## Literature Cited

Webster, W. D., J. F. Parnell, Jr. and W. C. Biggs, Jr. 1985. Mammals of the Carolinas, Virginia and Maryland. The University of North Carolina Press.

Platt, Steven G., and Mary Bunch. 2000. Distribution and Status of the Swamp Rabbit in South Carolina. Proc Annual Conference, Southeast Association Fish and Wildlife Agencies 54:407-413.